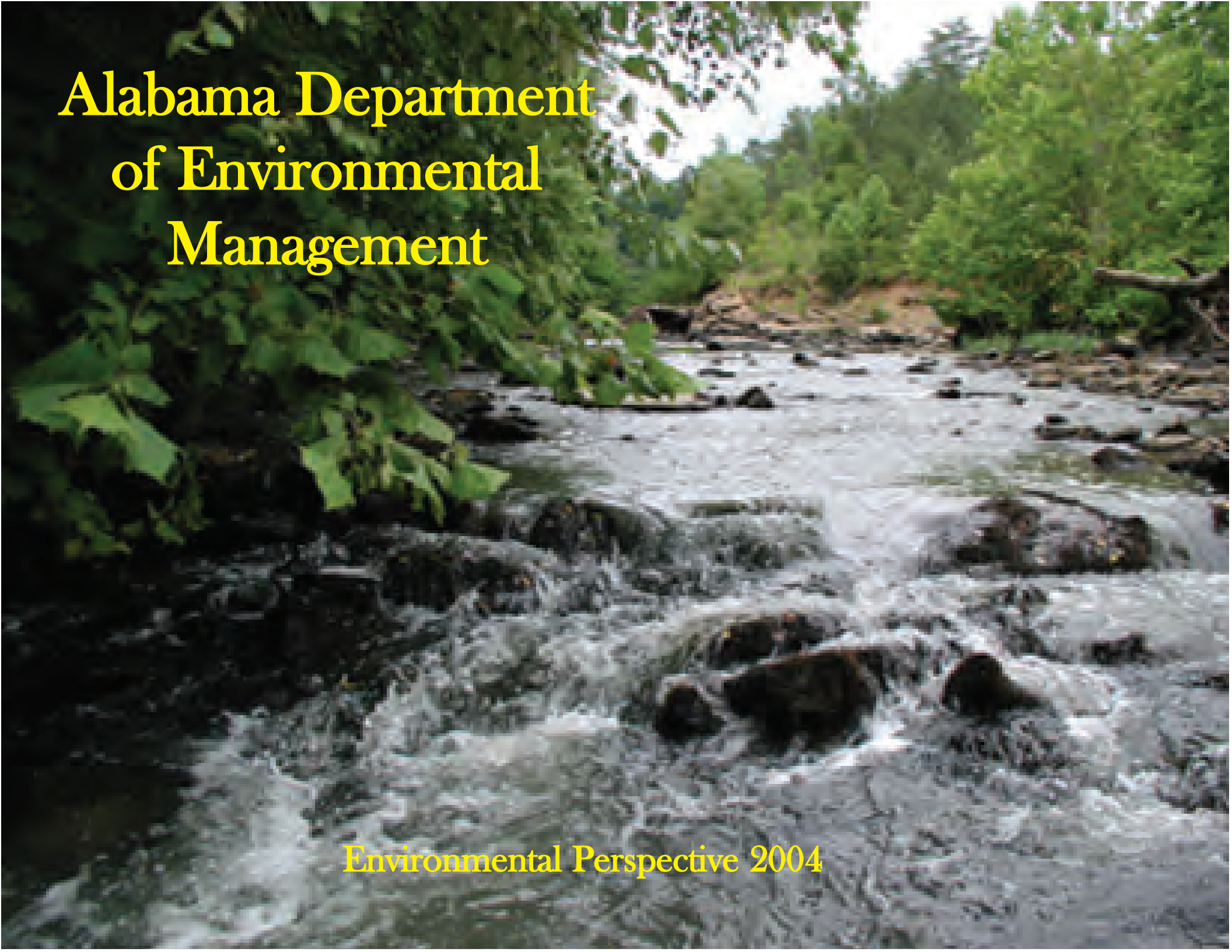

Alabama Department of Environmental Management

Environmental Perspective 2004

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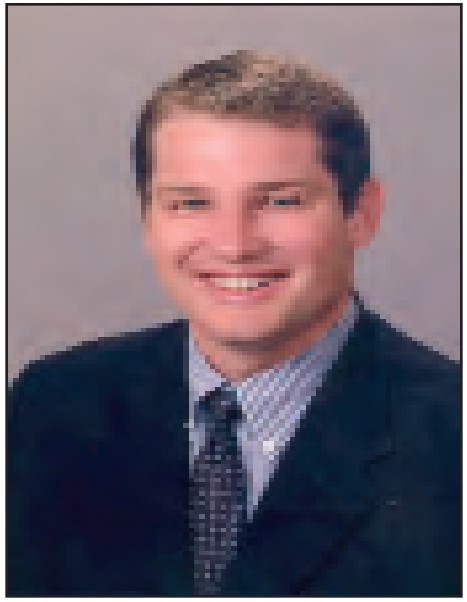
Cover Picture: Cahaba River

Inside Picture: Oak Mountain
taken by Larry O. Gay



MESSAGE FROM THE DIRECTOR

As the newly-appointed Director of the Alabama Department of Environmental Management, I am pleased to present "Environmental Perspective 2004," our annual report to the citizens of Alabama. The report summarizes the efforts and achievements of the Department's dedicated and professional staff as they continue to pursue air, land, and water quality objectives.

This is a wonderful time for me, and I am honored to serve our great state in this capacity. Alabama is widely recognized as being one of the most environmentally-diverse states in the nation. As such, our charge is to fairly and effectively strike a durable but realistic balance between the demands associated with economic growth and development and the desire of every citizen to see our state's extraordinary natural resources protected for the enjoyment and fulfillment of generations to come. This will be a great challenge, but one that the Department is devoted to addressing vigorously.

As the state's designated environmental regulatory agency, and as this report will reflect, we have accomplished much. However, many hurdles remain to be overcome, especially the critical funding shortage that continues to impede the realization of our goals, and promoting a clearer public understanding of the myriad environmental regulatory, compliance, and enforcement issues with which we are concerned. To help accomplish these and other goals, we will strive to communicate and work cooperatively with the Alabama Environmental Management Commission, elected officials, the regulated community, and stakeholder groups to reach a consensus on pressing environmental issues through public education, outreach, and hard work. To that end, we pledge our best efforts and extend an invitation to every Alabama citizen to join us in seeing that our state benefits from economic growth and diversity while ensuring that we remain "Alabama the Beautiful."

We hope this report creates a more profound awareness of the many valuable assets that comprise the Alabama Department of Environmental Management and the numerous activities we undertake on behalf of all Alabamians. We are confident that this report will educate, enlighten, and encourage all citizens to learn more about how they can serve as better stewards of our state's precious environment.

Sincerely,

Onis “Trey” Glenn, III

NEW STRATEGIC PLAN ADOPTED

VISION

To be the premier state environmental agency in the United States in balancing the protection of Alabama's environment and the health of all its citizens with the productive use of Alabama's valuable natural resources.

MISSION

Responsibly adopt and fairly enforce rules and regulations consistent with the statutory authority granted to the Alabama Environmental Management Commission (AEMC) and the Alabama Department of Environmental Management (ADEM) to protect and improve the quality of Alabama's environment and the health of all its citizens. Monitor environmental conditions in Alabama and recommend changes in state law or revise regulations as needed to respond appropriately to changing environmental conditions.

In April 2004, the AEMC adopted a strategic plan designed to guide the efforts of the Commission and the Department over the coming years.

The plan identifies the need for increased and stable funding sources, implementing measures to improve the Department's communications with both the Executive and Legislative Branches of state government, other state agencies, the regulated community, and the general public. The plan also calls for building upon the professionalism and capabilities of the Department staff by continuing to seek technological improvements, expanding environmental initiatives and pollution prevention (P2) efforts, examining the calculation of enforcement penalties, and improving education about the limits of the Department's statutory authority.

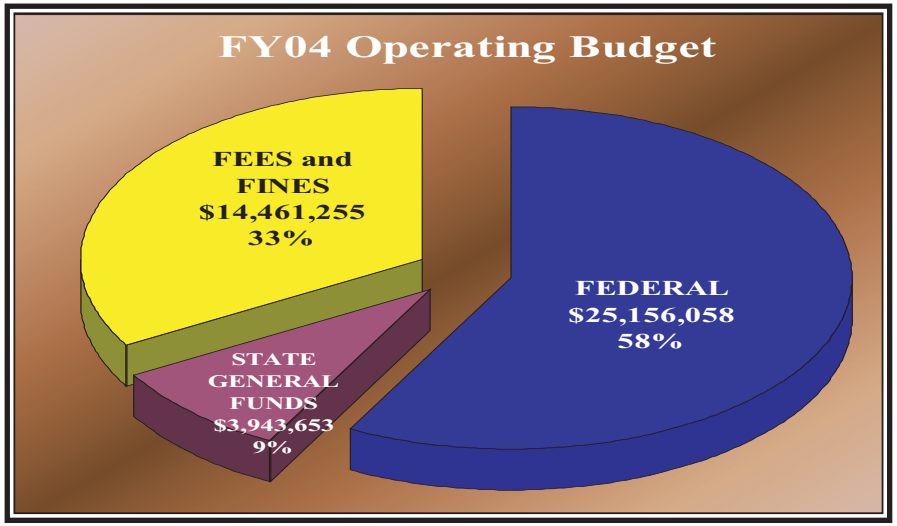
The Department has continued internal planning processes over the years and developed an internal plan to coincide with the U.S. Environmental Protection Agency's (EPA) Strategic Plan. The Department's efforts and goals/measures reflect, in large part, each media's (air/land/water) annual planning agreements with EPA. The Department's operational funding relies heavily upon federal grants (58 %). Accordingly, programs within the Department operate under "state/federal plans" that dictate a large portion of the Department's activities. These "state/federal plans" are implemented continually and Department programs are required to achieve specific performance measures annually in order to comply with federal grant requirements.

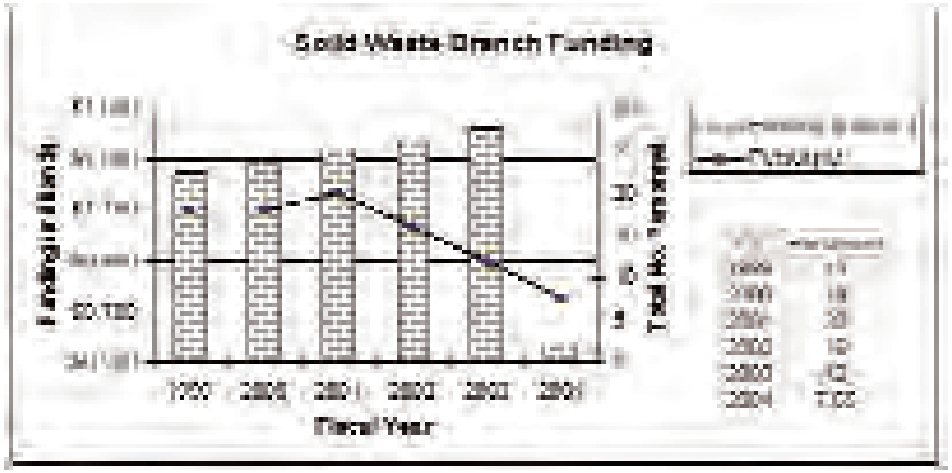
Combining the goals outlined in the strategic plan with the Department's continued implementation of its EPA work plans/grant commitments, will strengthen the Department's environmental efforts on behalf of Alabama's citizens for years to come. Copies of the strategic plan can be obtained from the ADEM web page at www.adem.state.al.us.

STATE SUPPORT

In the 2004 Fiscal Year (FY04) ADEM's General Fund appropriations reflected a 21% decrease from what the Department received in FY03.

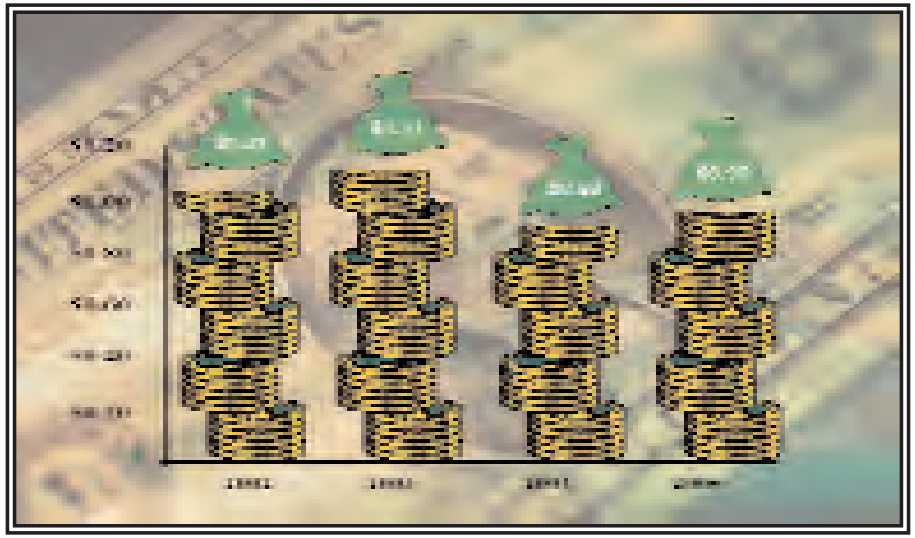
The largest portion of the FY04 budget cut was absorbed by the Department's Solid Waste Branch, resulting in significant impacts on the regulation of solid waste and medical waste in Alabama. Historically, municipal solid waste landfills have been inspected four times per year, and all other active landfills two times per year, while closed landfills have been inspected once per year. Medical waste facilities have typically been inspected twice every three years. In FY04, each active landfill was inspected at least once and no inspections were conducted at closed landfills or medical waste facilities. Inspectors have noted that permit non-compliance at most landfills was generally more prevalent than in the past, but enforcement actions against these landfills were not consistently conducted due to the staff cuts and reduced funding for legal support in the Office of General Counsel. Review of routine groundwater monitoring reports has been delayed by more than six months due to funding cuts for hydrogeological activities usually carried out by the Department's Groundwater Branch.





With the Commission's adoption of the final strategic plan, securing additional funding for the Department was identified as a critical component for achieving the plan's stated goals. The Department used the existing strategic planning stakeholder group to develop funding proposals with a high probability of broad-based support. The Committee met five times in FY04 with a consensus to have the Department promote a solid waste "tipping fee" bill during the FY05 legislative session that would generate an estimated $1.9 million per year. Funds generated from the passage of this bill would restore the solid waste program to a funding level comparable to that experienced in the mid-1990s.

State General Fund Support Per Capita



Source: General Fund Operating Dollars Divided by U.S. Census Bureau Population Estimates.

ENFORCEMENT

In FY04, 109 administrative orders were issued, 91 of which assessed civil penalties totaling more than $1.16 million. When penalties are assessed, six penalty factors referenced in § 22-22A-5, Code of Alabama 1975 are considered. Regulatory programs administered by the Department are diverse; however, one fundamental principle guides the Department's enforcement process: consistency; i.e., similar penalties are assessed for similar permit violations, both within programs and across programs.

Examples of deliberations associated with determining appropriate penalties:

1. Seriousness of Violation

- Is there a real or potential threat to public health or safety?
- Is there an additional encompassing environmental quality violation (violation of air or water standard, fish kill, etc.)?
- Is the violation administrative in nature (e.g., record-keeping), or technical (e.g., effluent/emission/Maximum Contaminant Level (MCL) violation)?
- Is the violation due to an exceedance of a monthly discharge/emission limit, or to an exceedance of a daily limit?
- Is the violation associated with a possible carcinogenic pollutant or air toxics, or with a more recognized or conventional pollutant?
- Is this violation a repeat violation?

2. Standard of Care

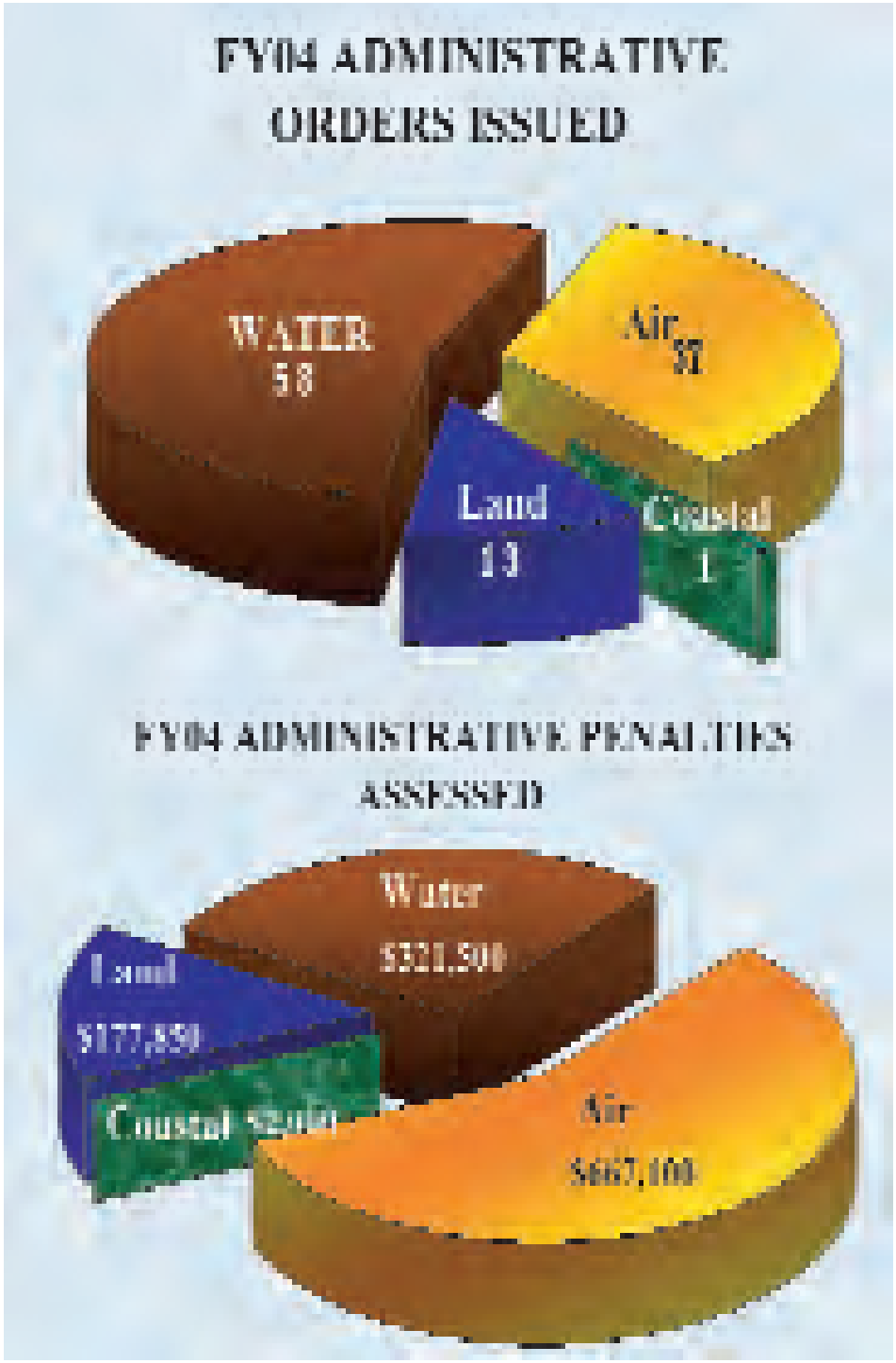
- Was the violation self-reported by the permittee or discovered by the Department?
- Could the violation have been avoided through proper documented maintenance and operation of the facility (to include process and treatment operations) prior to the violation?

3. Economic Benefit of Delayed Compliance

- Did the permittee consider corrective actions/costs that could have avoided enforcement action if undertaken prior to, and independent of, the enforcement action?
- Did the permittee avoid paying applicable permit fees?
- Did the permittee avoid additional costs by not meeting permit conditions?

4. Efforts to Minimize or Mitigate the Violation's Effect

- Did the permittee demonstrate promptness/aggressiveness in response to the violation?
- Did the permittee initiate environmental monitoring to assess/quantify potential impacts associated with the violation?



- Did the permittee initiate environmental remediation/ restoration efforts in response to the violation?
- Did the permittee undertake measures to preclude recurrence of the violation?

5. History of Previous Violations

- What is the number/chronology of previous enforcement actions taken against the permittee?
- What was the level of previous enforcement and any civil penalty levied against the permittee?
- Did the permittee meet compliance with previous enforcement actions?
- Is the current violation similar to, or different from, previous violations?

6. Ability to Pay

- Has the permittee asserted or demonstrated an inability to pay a civil penalty?
- Is the permittee a private enterprise or a governmental entity?
- Is the permittee a large or a small organization?
- Will the permittee's financial status (e.g., income tax records, bankruptcy filing, etc.) affect their ability to pay a civil penalty?

Air Quality

AIR QUALITY

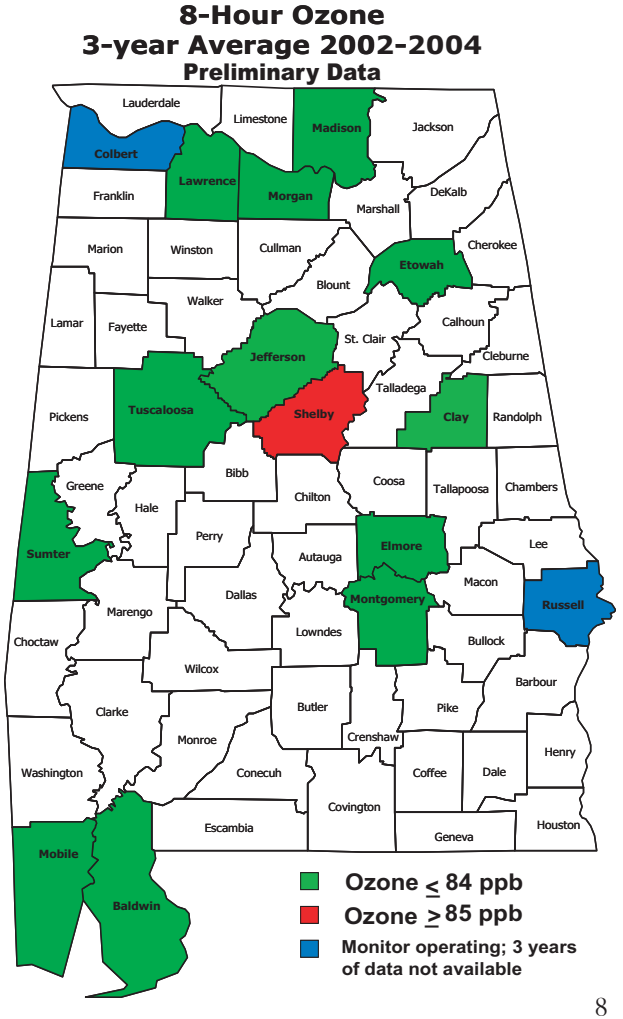
The Clean Air Act, which was last amended in 1990, requires EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. Overall, Alabama's air quality is good. However, the Department is working toward developing the plans that will be necessary to meet new, stricter standards for ground-level ozone and fine particulates.

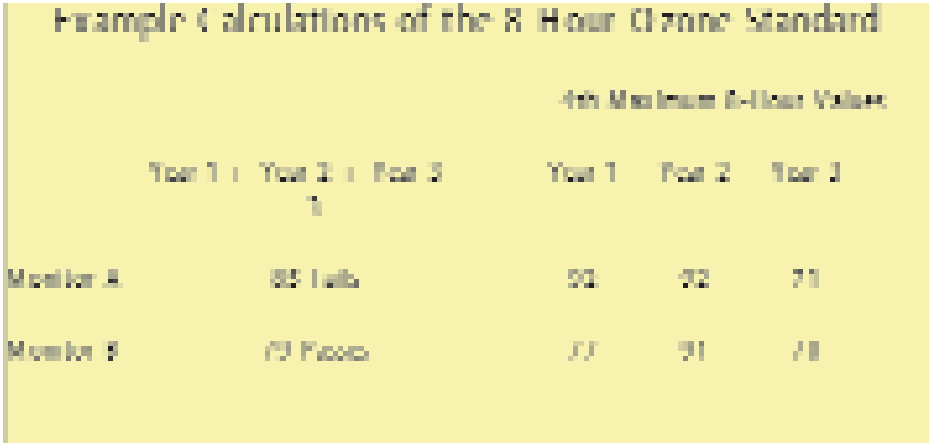
Ground-level Ozone in Alabama

Ozone is a gas that occurs naturally both in the stratosphere, forming a layer that protects the earth from the sun's harmful rays, and at ground-level. "Ground-level" ozone is formed by a chemical reaction of various air pollutants in the presence of sunlight, during the warmer months of the year. Ground-level ozone is an air pollutant that, at elevated levels, damages human health and the environment. The pollutants that contribute to ozone formation are oxides of nitrogen (NO_X) and volatile organic compounds (VOCs).

In 1997, EPA revised the NAAQS for ozone reflecting that health effects were more closely related to ground-level ozone over a longer 8-hour period. The new ozone standard (both primary and secondary) is met when the fourth-highest ozone measurement at any given monitor from each year, averaged over a three-year period does not exceed 84 parts-per-billion (ppb). EPA issued its final designations for 8-hour ozone non-attainment areas on April 15, 2004. These designations became effective on June 15, 2004. A "non-attainment" designation is a formal designation by EPA that an area has measured air quality that does not meet the NAAQS or contributes to an area that does not meet the NAAQS. The Birmingham area, consisting of Jefferson and Shelby counties, was re-designated by EPA as having met the former ozone standard on April 13, 2004. Under the new 8-hour standard, Jefferson and Shelby counties are the only two counties designated non-attainment in Alabama. The area is classified as a 'basic' non-attainment area which requires attaining the 8-hour standard no later than June 15, 2009.

There are several on-going national and regional initiatives that may result in the 8-hour ozone standard being met by or before the required date. These initiatives include the NO_X State Implementation Plan (SIP) Call, the continued phase-in of low-sulfur fuels and stricter emission standards for cars and trucks. In fact, only one ozone monitor in the state reveals a violation of the standard with a three-year average of 85 ppb.





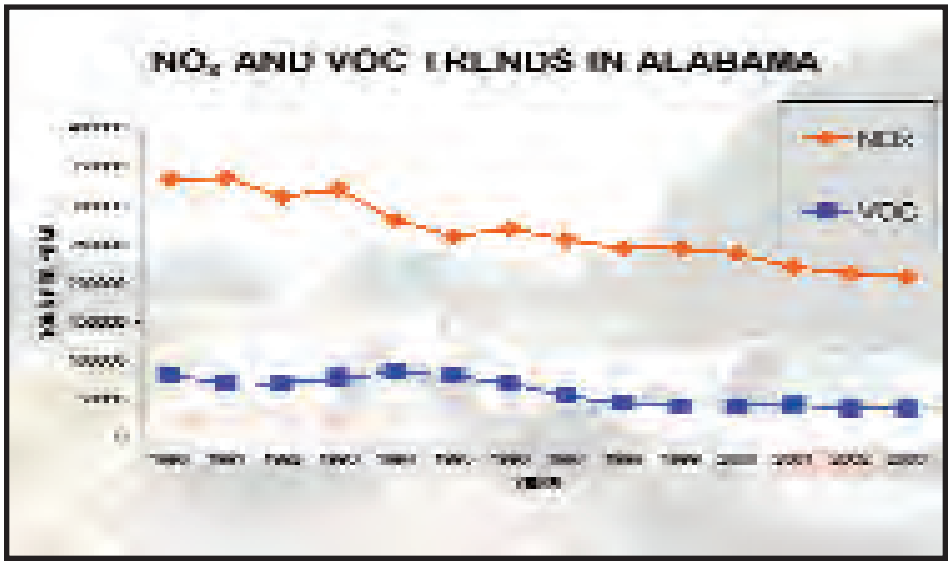
NO_X SIP Call, NO_X Budget Trading Program

In 1998, EPA finalized the NO_X SIP Call based on the findings of the Ozone Transport Assessment Group (OTAG). This rule concluded that NO_X emissions from 22 states and the District of Columbia contribute to ozone non-attainment in other states. The rule required these 22 states plus D.C. to revise their SIPs and limit NO_X emissions during the ozone season (May 1 - September 30). Alabama was one of the 22 states affected by the NO_X SIP Call and the first in the southeast to have an approved plan in 2001.

The NO_X SIP Call did not mandate which sources in these states must reduce NO_X emissions, but required these states to meet an overall NO_X emissions cap. This allowed the states to have maximum flexibility in determining which sources to control in order to meet that cap. As a result, the NO_X Budget Trading Program (NBTP) was developed to allow the states to achieve cost-effective NO_X emissions reductions.

The NBTP is a cap and trade program in which the emissions budget sets a cap on NO_X emissions at a specified level. Affected sources are provided "NO_X allowances" (one allowance equals one ton of emissions) by the state and each year each source must hold sufficient allowances to cover all NO_X emissions (tons) that the source emitted during that ozone season. Alabama's NBTP began on May 31, 2004, and covers electric generating units and large fossil fuel-fired boilers in counties fully located above Latitude 32° N. Alabama's NO_X Budget for the sources located in this area is capped at 25,497 tons and allowances are allocated to 101 units at 24 different plants on a three-year cycle. New units constructed in this area are not allocated allowances and must purchase enough allowances to cover their ozone season NO_X emissions from sources within the 22 state plus D.C. region.

For the 2003 ozone season, the affected sources reported 50,932 tons of NO_X emissions. For the 2004 ozone season, the sources reported NO_X emissions totaling 32,588 tons, a decrease of 18,344 tons (36%).

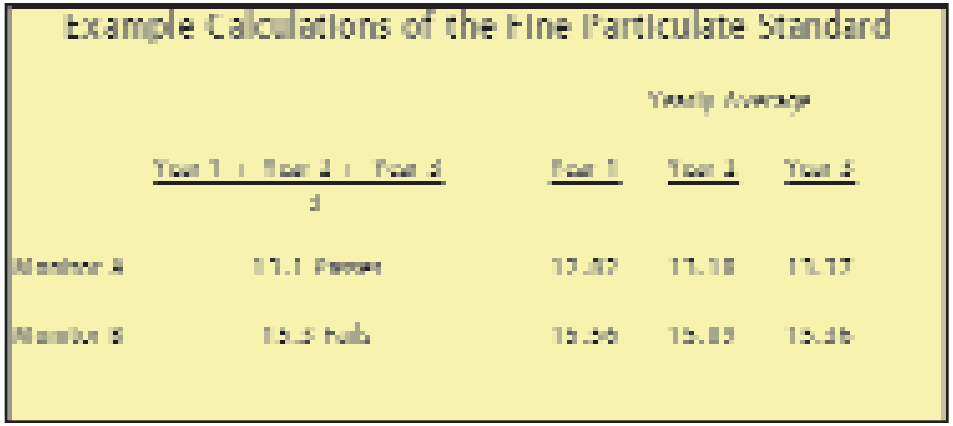


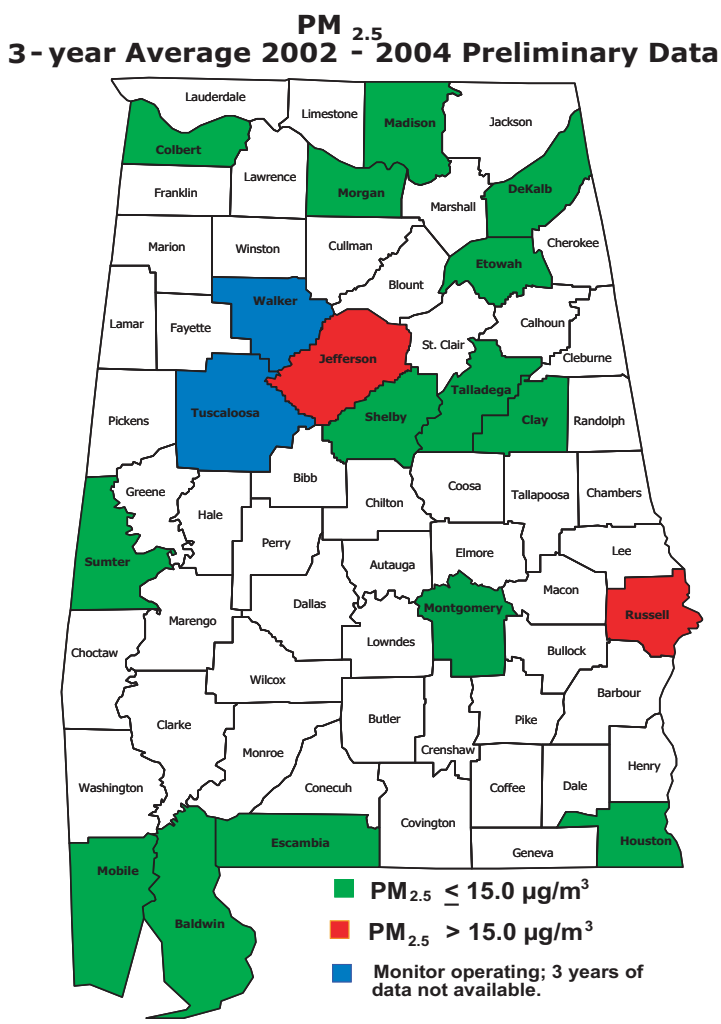
Particulate Matter in Alabama

Particulate matter (PM) describes airborne particles, including dust, dirt, soot, smoke, and liquid droplets. Particles can be suspended in the air for long periods of time and can appear large or dark enough to be seen as soot or smoke. Others are so small that individually they can only be detected with an electron microscope. Some particles are directly emitted into the air from a variety of sources such as vehicles, factories, and unpaved roads. Other particles can be formed in the air from chemical reactions occurring when burning fuels react with sunlight and water vapor. Automotive fuel combustion, power plant and other industrial processes can contribute to these emissions.

Particles less than 10 micrometers in diameter (PM_{10}) pose a health concern because they can accumulate in the respiratory system. All areas of the state attain the standard for PM_{10}. Particles less than 2.5 micrometers ($PM_{2.5}$) in diameter (less than one-seventh the average width of a human hair) are referred to as "fine" particles and may pose the greatest health risks because they can lodge deeply in the lungs.

In February 2004, the Department submitted to EPA its recommendations for $PM_{2.5}$ non-attainment areas. The Department's recommendation addressed only the annual standard since all areas of the state currently meet the daily standard, which is set at 65 micrograms per cubic meter ($\mu g/m^3$). The Department recommended that the two counties (Jefferson and Russell) with monitoring data exceeding the annual standard of 15.0 $\mu g/m^3$ be designated as non-attainment. In December 2004, EPA designated Jefferson, Shelby, Walker (partial), and Jackson (partial) counties as non-attainment. EPA temporarily identified DeKalb and Etowah counties unclassifiable pending review of the 2004 monitoring data.

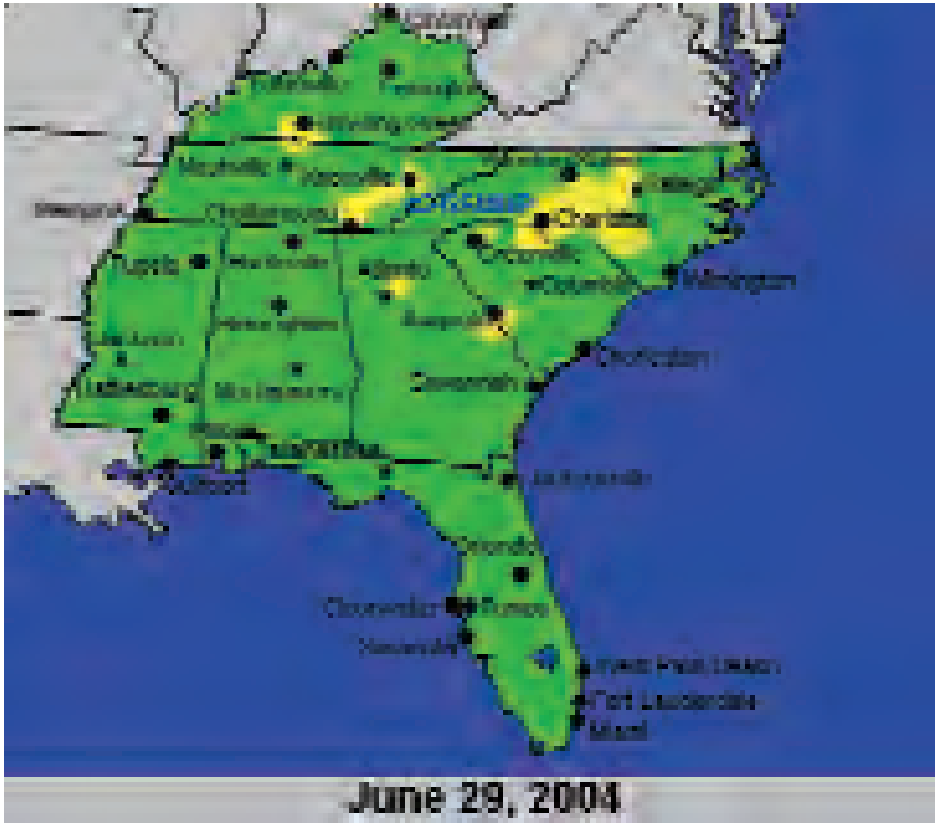




Air Quality Forecasting

Since its inception in 1996, air quality forecasting continues to be a high priority for the Department. ADEM uses EPA's Uniform Air Quality Index (AQI), a system of color codes, to relay information on air quality, its related health impacts, and personal measures that can be used to help reduce air pollution.

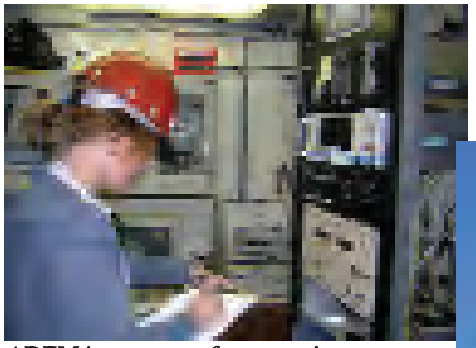
The daily forecast consists of a color-coded category forecast, as well as an AQI number, which corresponds to different recommended actions for the general public. Air quality forecasting continues to be a high priority for the Department. ADEM is committed to providing citizens with information on air quality, its related health impacts, and ways they can help prevent air pollution. The forecasts for the Birmingham, Huntsville/Decatur, and Mobile areas are available through the following websites: www.adem.state.al.us/AirDivision/Ozone/AirQuality.htm, and www.airnow.gov. Additional sites that give the Birmingham area forecasts are www.jcdh.org and www.alabamacleanair.com/.



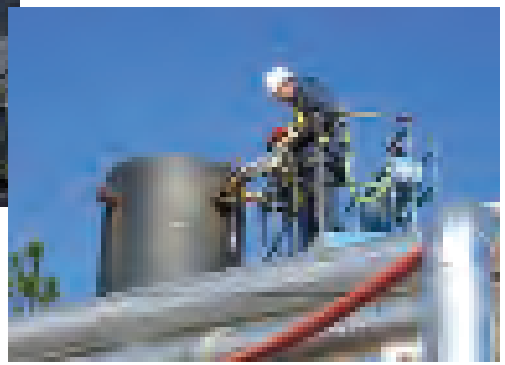
Example map available from EPA's AirNow website.

Environmental Measurements Ensure Compliance

- Staff reviewed 112 emissions test protocols.
- 801 emissions tests scheduled with 1,623 compliance measurements performed.
- Staff performed on-site observations of 370 emissions tests.
- Staff performed #18 in-field tests with five failures resulting in $25,000 in assessed penatlies.
- Staff performed 82 leak detection audits of gasoline tanker trucks.
- Staff performed 17 continuous emission monitoring system audits.
- Staff trained over 1,100 industry, consultants, and regulatory individuals in the reading of visible emissions plumes to ensure field compliance.



ADEM inspector performs continuous emissions monitoring system audit.



Testing of industrial stack emissions to ensure compliance with permit limits.

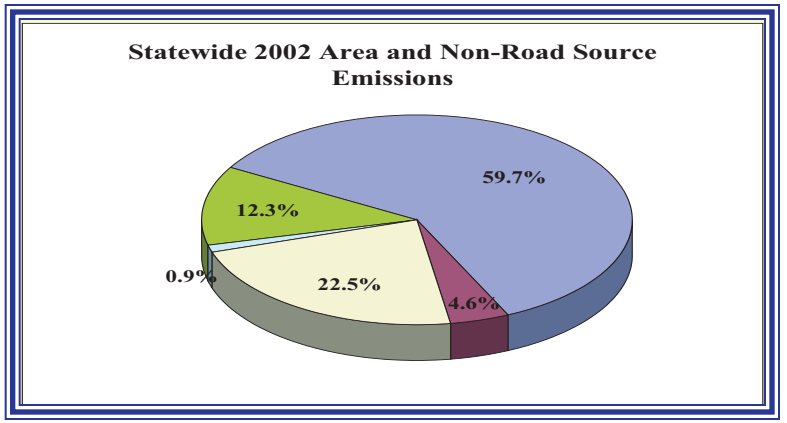
Emission Inventories

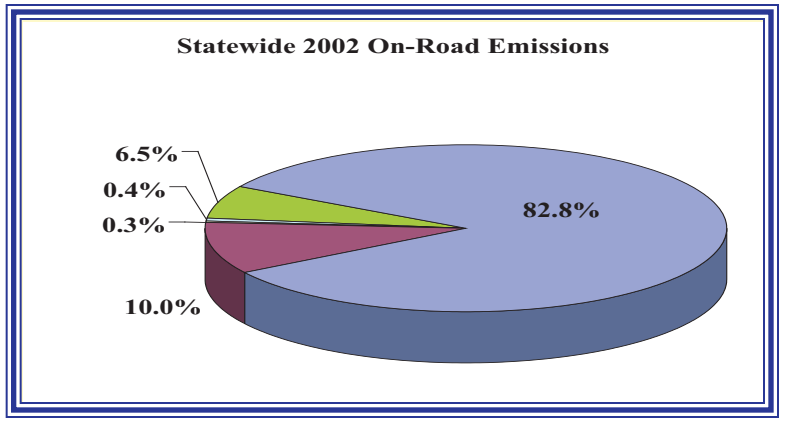
An emission inventory is a tabulation of all sources of air pollutant emissions in a given area, complete with the emissions attributable to these sources. Emission inventories are fundamental building blocks for developing air quality control and maintenance strategies on a local, regional, and national level. Emissions of air pollutants continue to play an important role in many air quality issues. These emissions contribute to the formation of ozone and airborne particles, the deposition of acids, and visibility impairment.

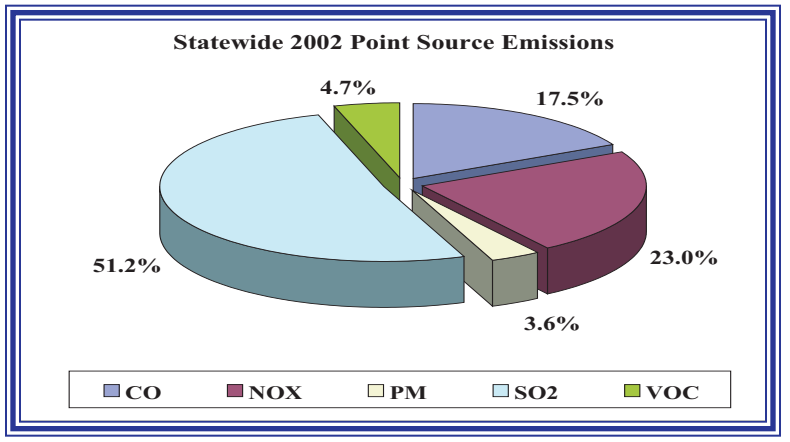
In the mid-1990s, the Department began gaining experience and compiling data on the proper emissions estimating techniques to fulfill its obligations to meet inventory requirements for the former Birmingham 1-hour ozone nonattainment area. Technologies to estimate emissions also paved the way for the modeling needed to achieve successful attainment for Birmingham. Success was realized with Birmingham's formal redesignation on March 12, 2004.

In 2002, EPA passed the Consolidated Emissions Reporting Rule, or CERR. The rule requires states and local agencies to report emission inventories of area and non-road mobile sources, and on-road mobile sources. Reporting was undertaken on a county-by-county basis every three years beginning in 2002, with the first data reported to EPA by June 2004. Statewide reporting of air emissions from large industrial facilities known as "point sources" has been an existing requirement for many years.

In 2004, the Department continued its multi-year project to identify and study emission sources and met EPA's requirement to report Alabama's emissions inventory.







Area Sources - Types of small businesses and industries that are not large emission sources independently, but as a group emit pollutants in significant amounts (this category also includes the non-road mobile sources such as construction equipment, lawn and garden equipment, etc.)
On-road Sources - Vehicles which travel the roadways; includes cars, trucks, motorcycles, buses, etc.

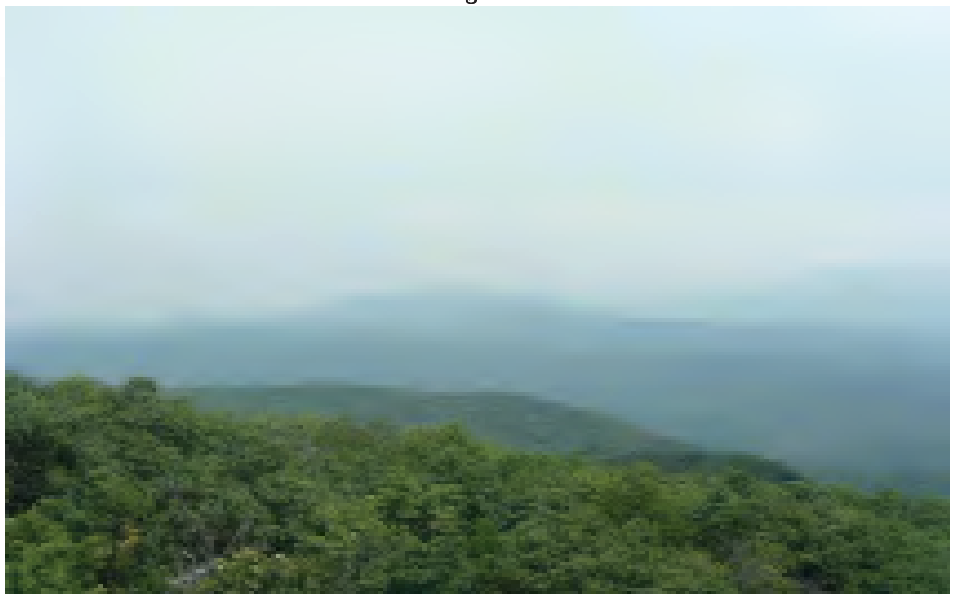
VISTAS Evaluates Haze in Southeast U. S.

The Visibility Improvement State and Tribal Association of the Southeast (VISTAS) is a collaborative effort of state governments, tribal governments, and federal agencies established to coordinate activities associated with the management of regional haze, visibility, and other air quality issues in the Southeast. VISTAS is comprised of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia, and the Eastern Band of Cherokee Indians. The association was created to meet the national goal for visibility and to prevent any future impairment of visibility in Class I areas from manmade air pollution. There are 156 Class I areas across the country, defined as those national parks exceeding 6,000 acres, wilderness areas and national memorial parks exceeding 5,000 acres, and all international parks which were in existence on August 7, 1977. Eighteen Class I areas lie within the VISTAS region, including the Sipsey Wilderness Area located within the Bankhead National Forest in Northwest Alabama. Although not all VISTAS states contain a Class I area, emissions from industrial sources in those states could contribute to visibility problems in other states.

VISTAS is tasked with creating the basis for the ten states' SIPs that will reduce and restore the visibility in Class I areas to natural conditions by 2064. Each state's SIP is due to EPA by December 2007. More information on VISTAS can be found at www.vistas-sesarm.org .

Visibility Web Cam photos at the Great Smoky Mountains National Park's Look Rock Tower (Tennessee), a member of VISTAS.

Good Visibility Day
Visual Range: 100 miles



Bad Visibility Day
Visual Range: 15 miles

Land Management

LAND MANAGEMENT

Scrap Tire Program Launched

The Department introduced its new Scrap Tire Program on October 1, 2004, with the adoption of regulations developed in response to the passage of the Alabama Scrap Tire Environmental Quality Act. The new program was designed and implemented to uniformly regulate scrap tire accumulations statewide, from the point of generation to the point of disposal.

The Department will register, permit, inspect, and enforce scrap tire regulations for the collection, transportation, and disposal of scrap tires generated in Alabama. Personnel will also register scrap tire receivers, issue environmental permits for scrap tire transporters and processors, and investigate complaints of suspected improper storage or illegal disposal of scrap tires. To date, approximately 1,100 facilities that sell new and used tires have been registered and efforts are ongoing to identify, notify, and complete registration of the estimated 6,000 existing new and used tire facilities throughout Alabama. According to Department estimates, between 14 and 20 million scrap tires are stockpiled or illegally disposed of in more than 800 sites across Alabama.

Funding for the Scrap Tire program is derived from a one dollar-per-tire fee collected since September 1, 2003, from point-of-sale purchases of replacement vehicle tires. During FY04, more than $3 million was collected for the management of the program, with the majority of the funds to be used to defray the costs associated with remediation of illegal scrap tire sites. Cleanup of these sites is slated to begin in 2005 with the development of an approved remediation contractors list and site assessment and ranking system. The Department is also working cooperatively with the Alabama Scrap Tire Commission, the Rubber Manufacturers Association, and the EPA to educate state fire department personnel, local government officials, cleanup contractors and other emergency responders about scrap tire fire prevention, fire fighting and remediation, and how best to manage the range of health and safety issues associated with the materials encountered in such an event.

Illegal scrap tire disposal sites.

ANCDF Successfully Completes Rocket Destruction

ANCDF personnel prepare one of the last M55 GB rockets for thermal destruction.

Friday, October 29, 2004, was an important day for the citizens of Anniston and Calhoun County, as well as for Alabama and the nation. On that date, the Anniston Chemical Agent Disposal Facility (ANCDF) successfully destroyed the final dozen nerve agent GB (sarin)-filled M55 rockets in its chemical weapons stockpile. Although the rockets were produced for military use during the turbulent Cold War years, none were ever used in combat. In 1981, they were declared obsolete and of no military value. The final dozen rockets destroyed eliminated the 42,738 GB rockets, and more than 47,000 gallons/427,500 pounds of liquid GB nerve agent housed at the ANCDF. These rockets represented one component of the more than 661,000 chemical munitions stockpiled at the Anniston Army Depot since the early 1960s. Once the final M55 rockets had been safely transported to the incinerator facility, 23 storage igloos had been cleared of their deadly contents, thus reducing the threat of exposure to Anniston and surrounding communities by an estimated 30 percent.

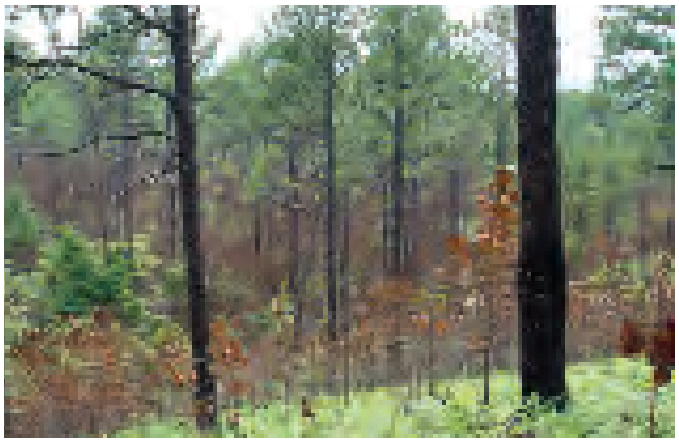
Beginning with the first day of incineration activities on August 9, 2003, Department personnel monitored rocket destruction at the ANCDF 24-hours-a-day, seven-days-a-week, and logged more than 10,000 man-hours ensuring that chemical weapons destruction was carried out according to stringent regulatory requirements and conditions contained in the ANCDF's environmental permit. As a testament to the Department's extensive monitoring and facility personnel's commitment to safe operations, the ANCDF has been reported to have had the smoothest startup and performance to date in the U.S. Chemical Demilitarization Program.

Work has commenced on the incineration of the approximately 100,000 GB artillery projectiles in the ANCDF stockpile. The projectiles will be decontaminated in the ANCDF's Metal Parts Furnace, and the drained agent will be destroyed in the Liquid Incinerator. Recovered explosives will be destroyed in the facility's Deactivation Furnace System. The GB projectile campaign began with the destruction of M426 8-inch rounds on December 9, 2004, after the ANCDF work force completed reconfiguration of the facility to process the artillery shells.

Once destruction of all GB munitions has taken place, ANCDF personnel will begin destruction of munitions containing the nerve agent VX, then to the destruction of mustard, or blister agent munitions. Destruction of the Anniston Army Depot's entire chemical weapons stockpile is expected to be completed by 2010, and the Department will maintain its presence at the ANCDF throughout this period to ensure public safety and environmental compliance.

Cleanup Activities Continue at Former Fort McClellan

The U.S. Army and the Joint Powers Authority (JPA), with oversight provided by the Department, continue cleanup operations on the former Fort McClellan in Anniston. Fort McClellan officially closed in 1999 under the Department of Defense (DOD) Base Realignment and Closure (BRAC) program. On September 30, 2003, Governor Bob Riley gave final approval for the early transfer of approximately 4,700 acres of base property to the JPA, a local land re-use authority created to help determine future civilian uses for the former base. Agreements reached between the JPA, the Department, and the U.S. Army enabled transfer of environmental cleanup responsibilities to the JPA, whose plans call for the ultimate remediation and redevelopment of the acreage, which includes more than 80 facilities for various residential, commercial and industrial uses.



In 2005, the JPA embarked on investigation and cleanup activities of extensive areas of the former base as part of its redevelopment plans. The JPA will investigate and remediate numerous parcels which contain munitions of explosive concern (MEC) and other verified or suspected unexploded ordnance (UXO) used during troop training exercises over the past decades. The Department will continue to be the lead agency providing technical oversight to the Army and the JPA concerning identification, characterization, management and removal of those components that could pose real or potential environmental concerns, and that could disrupt planned future private sector uses of the parcels. An Environmental Services Cooperative Agreement, estimated to be valued at $48.5 million and agreed upon between the DOD and the JPA, will finance cleanup activities. The amount is the largest such agreement in the Army's BRAC program.

The Mountain Longleaf National Wildlife Refuge now occupies 7,600 acres of the former Fort McClellan.

The Department provides regulatory oversight for all areas subject to investigation, site characterization, and remediation regarding hazardous, toxic, and radiological wastes and MECs. In 2004, the Department cited the Army and its remediation subcontractor for hazardous waste irregularities concerning certain types of UXO. As a result, the Department has undertaken an expanded oversight role in cleanup activities and field investigations.

In addition to the privatization and land reuse efforts being conducted by the JPA, the U.S. Fish and Wildlife Service (USFWS) was granted the use of approximately 7,600 acres of the former base property, and has established the Mountain Longleaf National Wildlife Refuge. As part of its agreement with the USFWS, the Army continues to have responsibility for the investigation and cleanup of refuge property. The Department's oversight of MEC cleanup activities within the boundaries of the refuge has allowed approximately 3,300 acres to be opened for hunting, wildlife observation, and other compatible public uses.

ADEM and ALDOT Create Compliance Model

Cooperative efforts between the Department and the Alabama Department of Transportation (ALDOT) to address hazardous waste non-compliance issues at two ALDOT sites in Montgomery and Troy have led to the creation of an innovative, effective model for possible future use in similar cases of non-compliance. In June 2003, hazardous waste inspections of the ALDOT sign shop in Montgomery, and at the Seventh Division District Office in Troy, revealed numerous violations of the federal Solid Waste Disposal Act and the Alabama Hazardous Wastes Management and Minimization Act. Although inspections did not reveal illegal disposal or dangerous handling of hazardous materials, ADEM did, however, document instances of improper record-keeping and reporting, as well as several less serious, but repetitive violations.

In March 2004, the Department and ALDOT entered into a Consent Order which imposed stipulated actions on ALDOT to correct technical and record-keeping violations, required soil and groundwater sampling at the agency's 41 statewide facilities, and levied a $161,000 civil penalty. Assessment of the circumstances by officials at the agencies disclosed that ALDOT lacked a comprehensive environmental management and control program to help alleviate existing problems and prevent future instances of non-compliance. The challenges for ALDOT were to return to compliance and avoid costly and cumulative environmental effects of their routine operations that have the potential for long-term environmental impacts, including increased storm water run-off, erosion control, and hazardous wastes management and disposal.

A voluntary provision of the consent order would allow ALDOT to conduct a Supplemental Environmental Project (SEP) to help offset a portion of the civil penalty, but only if ALDOT agreed to spend three dollars for development and implementation of the SEP for every dollar of penalty offset. While a more expensive option, the SEP was acknowledged as a workable solution for measurable environmental compliance, and for the prevention of future non-compliance. ALDOT elected to implement the SEP and to be the first public or private sector entity in Alabama to exercise the Environmental Management System (EMS) option. The EMS option is voluntary, and requires substantially more monetary investment and environmental performance than provided for under more typical regulatory strategies. The Department and ALDOT officials agreed that allocating additional available resources and committing to developing and implementing an EMS was preferable to paying a large monetary penalty, and would create compliance benefits for ALDOT and increase environmental benefits to the state beyond legal requirements.

Pollution prevention is a key component for EMS inclusion to provide the greatest possible economic and environmental improvements. The Department elected to test the merits of the EMS compliance option, with ALDOT's cooperation, prior to encouraging its use by smaller, private sector entities. Department personnel, trained in the identification and selection of appropriate pollution prevention practices, offered development and implementation assistance to ALDOT to achieve the gains envisioned. Commitment for pollution prevention, proper facilities management, and other environmentally preferable projects will help leverage cost savings that the facilities may then apply to further improvements, yielding environmental benefits greater than those possible with traditional regulatory approaches.

The ADEM-ALDOT cooperative environmental compliance effort received the 2005 Green Apple Award, presented by the Green Organisation, headquartered in Northampton, U.K. The project competed with a host of other international submittals and reflected each entrant's concept for developing and/or refining environmental best practices.

Brownfields Redevelopment

The Department continues to facilitate the cleanup and redevelopment of brownfields across the state. According to the 2002 Small Business Liability Relief and Brownfields Revitalization Act (Brownfields Law), a brownfield site is defined as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant." As a result of these real or perceived environmental threats, properties remain abandoned or underutilized. Remediation and redevelopment of the properties reduces potential environmental hazards, encourages economic development and the creation of jobs, and helps minimize urban sprawl.

Generally, a brownfield site is put back into productive use by a three step process: assessment, remediation, and redevelopment. In the assessment phase, the testing for contamination is conducted through the collection and analysis of field samples, including groundwater, surface water, sediments, and soil. This data is then used to design a remediation plan for site cleanup.

Field sampling equipment is cleaned and decontaminated on-site.

Water quality conditions are tracked and monitored using Global Positioning Systems and water quality equipment.

Remediation of a site will vary according to contamination levels, site conditions, and remediation technologies. In some cases, engineering or institutional controls, such as deed or water use restrictions, may be required before a site can be reused. In many cases, the cost of the remediation may be offset by the use of existing infrastructures such as utilities, roads, and railways.

Site remediation can involve excavation of contaminated soil.

The redevelopment of a site is the ultimate goal of the brownfield program. A brownfield site may be utilized as a new industry, but many brownfield sites across the country have been redeveloped as affordable housing units, parks and recreational facilities, or shopping malls.

Montgomery's Riverfront Park is an example of a Redeveloped Brownfield Site.

Three Walmart Supercenters have been developed on Brownfield Sites statewide.

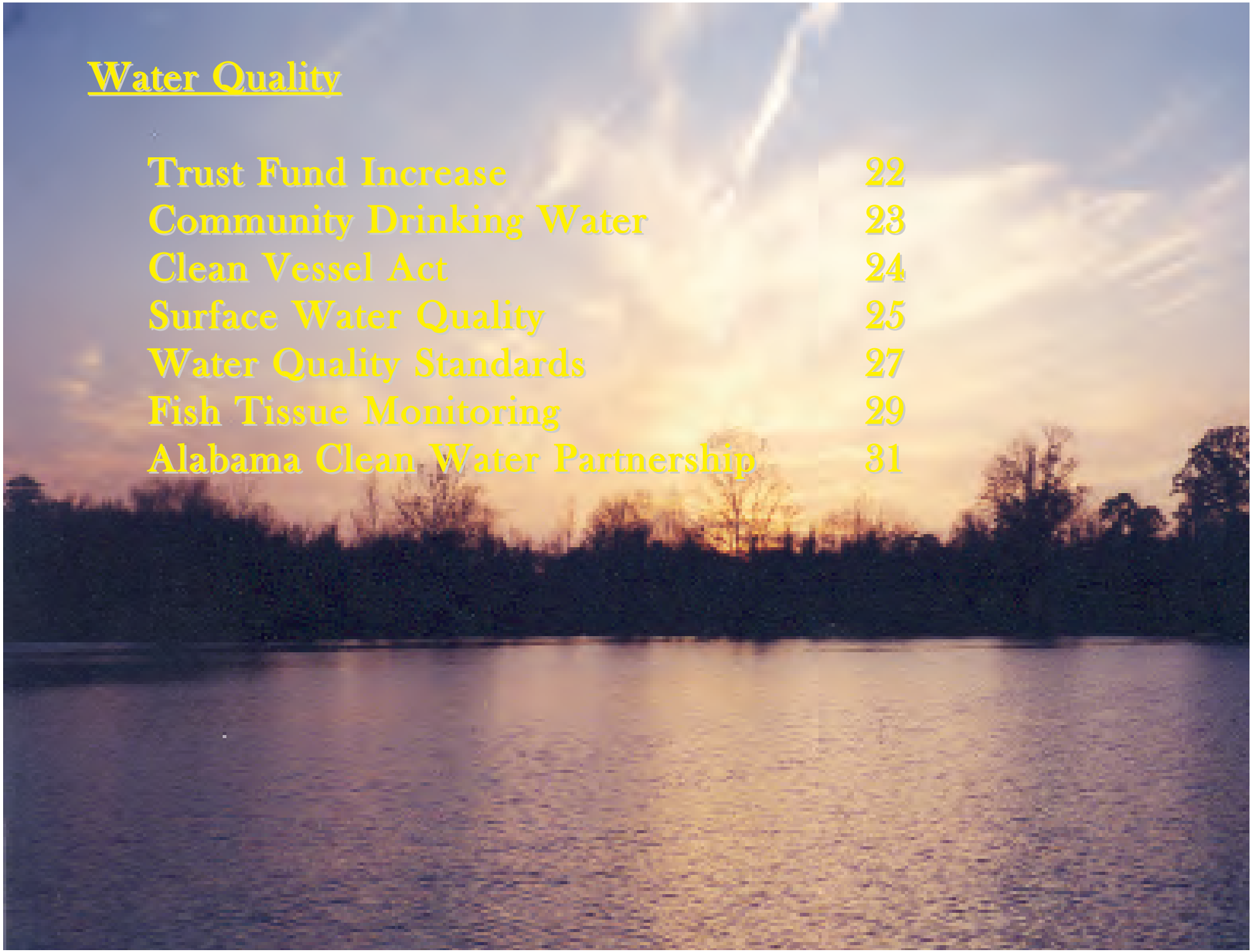
The Department has been working with regional and local government entities to identify, characterize, and promote the revitalization and reuse of potential brownfield sites across the state. The Department has a newly-established program funded by EPA federal grants to assist municipalities and local governments with the assessment of brownfield sites in their community. Due to limited assessment funds, an application process has been developed for interested parties to petition the Department to assess a brownfield site in their communities. This application is available by calling (334) 271-7968 or on-line at www.adem.state.al.us.

Alabama Hazardous Substance Cleanup Fund

The Alabama Hazardous Substance Cleanup Fund (AHSCF) was established in 1989 by the Alabama Legislature to provide a mechanism for the Department to investigate, remediate, and monitor hazardous substance sites. These sites may be an endangerment to human health and the environment, but may not qualify to be addressed by another federal or state cleanup program.

Generally, sites addressed utilizing AHSCFs either are not qualified for, or are unlikely to receive, cleanup funding under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, commonly referred to as "Superfund." Funding may also be used for long-term maintenance and monitoring of sites which have historically been addressed under CERCLA. Since the inception of the AHSCF, approximately 300 sites have been addressed, with almost 275 sites remediated to the extent that no further action is warranted.

Funding for the AHSCF activities is generated by legislative appropriations, fees from hazardous waste disposal at the Emelle hazardous waste landfill, and reimbursements from potentially responsible parties (PRPs). For FY04, legislative appropriations and tax revenue totaled $128,286.



Water Quality

WATER QUALITY

Tank Trust Fund Receives Funding Increase

UST site assessment for soil and groundwater contamination.

The Alabama Underground and Aboveground Storage Tank Trust Fund, established October 1, 1989, reimburses qualified tank owners and operators for the qualified assessment and remediation costs associated with fuel releases and spills from underground and aboveground storage tanks. The Trust Fund has been leveraged by a half-cent-per gallon fee, paid by petroleum companies, who withdrew fuel from bulk storage.

Since its inception, the Trust Fund has financed fuel spill/release remediation activities at more than 2,000 locations throughout the state. However, due to increasing cleanup demands, the fund balance has continued to decline over the past several years. The Department requested that the Alabama Underground and Aboveground Storage Tank Management Board recommend to the AEMC an increase in the per-gallon fee for fuel withdrawn from bulk storage. The recommended increase would provide a consistent, reliable funding source to remediate sites where petroleum products have been released to soil and groundwater.

The AEMC concurred with the Department and the Management Board and on October 1, 2004, adopted a revision to the ADEM Administrative Code that governs the Trust Fund, adding another half-cent per gallon of fuel withdrawn from bulk storage. This increase will allow the Trust Fund to remain solvent and will facilitate cleanups at approximately 1,200 Trust Fund sites.

Free-product discovered during closure of a tank.

Concurrent with the fee increase, Department staff and Trust Fund Management Board members are working together to recommend and implement improvements in administrative and technical requirements for cleanups supported by the fund. Some of these improvements include implementing performance-based cleanup reimbursements and implementing measures that will shorten the time required to complete investigation and cleanup.

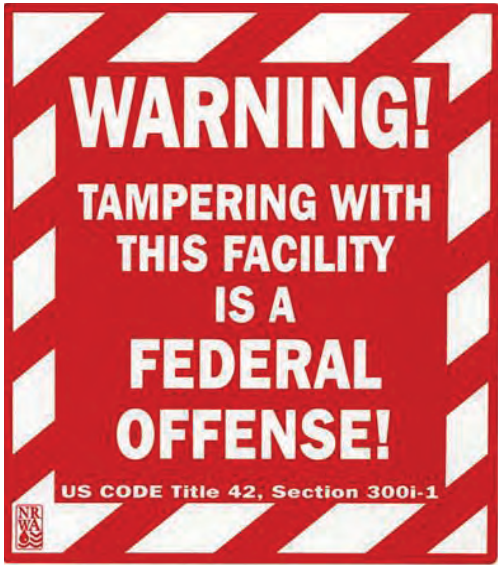
Dual-phase remediation system.

Community Drinking Water Systems' Security

A cornerstone of Alabama's Homeland Security program is the protection of public infrastructure, most notably, public drinking water supplies. In May 2002, the Public Health Security and Bioterrorism Preparedness and Response Act was enacted by Congress, requiring all community water systems (CWS) serving a population greater than 3,300 persons to conduct a vulnerability assessment (VA) and an emergency response plan (ERP) to address bioterrorism and other intentional acts that could disrupt or compromise the safety and reliability of drinking water supplies. Each state is required to submit its ERP, incorporating the results of the VA, to the EPA Administrator.

Storage tank anti-climb ladder gate.

Small- and medium-sized CWSs may lack the manpower and technical expertise to adequately plan extensive assessments of their systems' critical assets, and to prioritize their responses to, and deterrence of, intentional acts targeted at their systems. The Department, in cooperation with the Alabama Rural Water Association (ARWA) has successfully conducted vulnerability assessment and emergency response plan workshops in five regions of the state to assist water utilities to conduct their VA and ERP. The workshops provided CWS administrators and operators with guidance for identifying the most critical components of their systems, and to design the most appropriate and reasonable actions to be taken in the event of a potential service interruption or compromise of water quality.



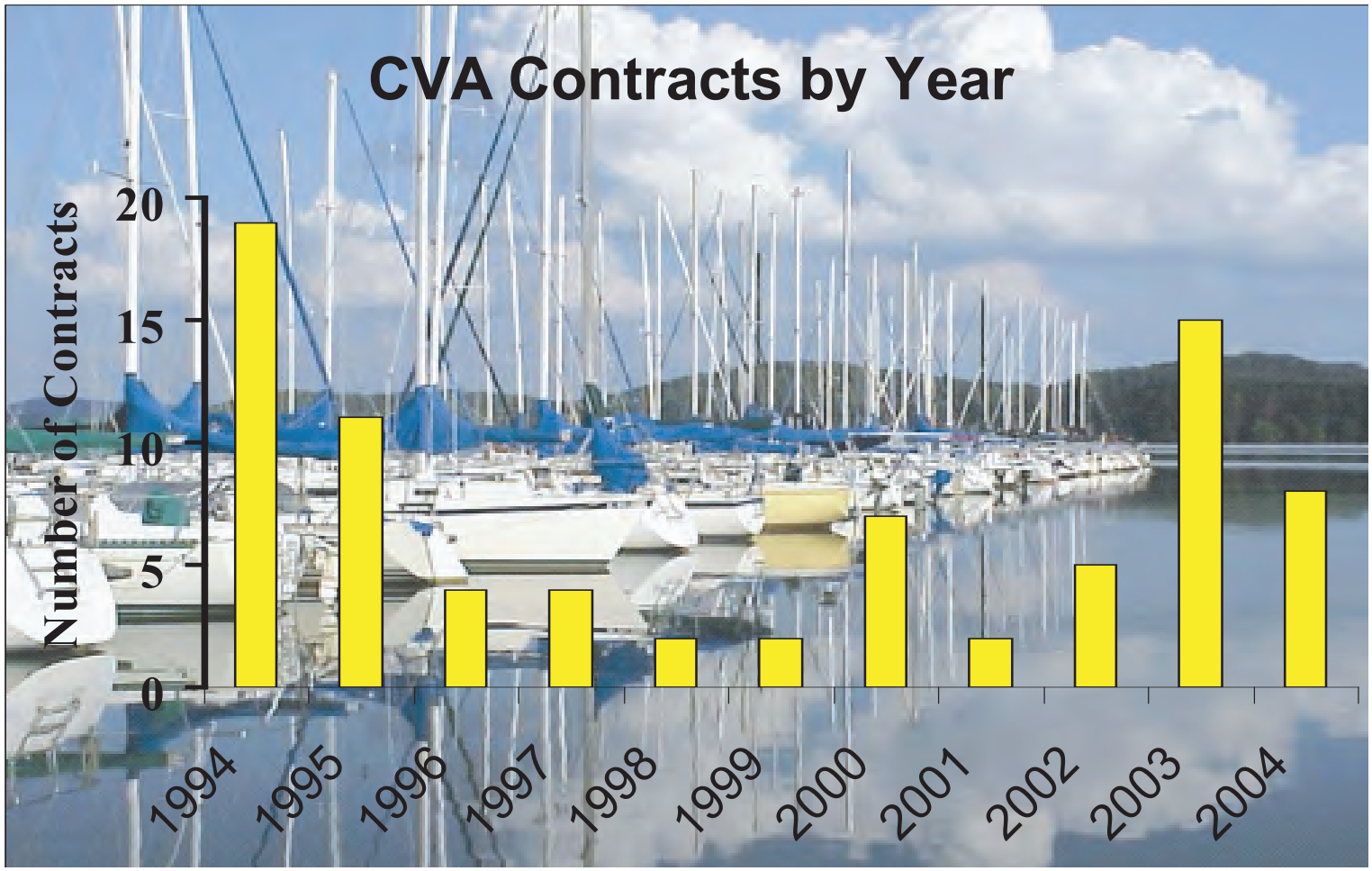
With the Department's technical assistance, small and medium-sized CWAs (3,300 to 49,999 customers) submitted their ERPs to the EPA Administrator by the June 30, 2004, deadline. The ERP requirements for those utilities in Alabama serving a population of 3,300 and fewer customers was also successfully completed and submitted to the EPA by the December 31, 2004, deadline.

Huntsville South Parkway Water Treatment Plant.

Clean Vessel Act Program Update

In 1993, the U.S. Congress passed the Clean Vessel Act, which provides funding to states through the U.S. Fish and Wildlife Service for the provision of adequate facilities for disposal of sewage from boats (vessels). The Department has provided this funding to marinas through the State Contract System since 1994. Marinas must apply for the funds and agree to pay 25% of the costs associated with the construction and installation of the systems in order to provide the required match for the federal funds. To date, 79 contracts have been issued with the number of contracts each year illustrated in the graph shown below.

The Department staff continue to vigorously promote this program and encourage marinas not currently served by a boat sewage pumpout system to apply for financial assistance. Enforcement of the 2002 provision of the Marine Sanitation Act, requiring certain marinas to have such a system, will help increase the demand for funds. It is also expected that the serious damage to our coastal marinas by hurricanes may warrant funding for replacement systems.



Surface Water Quality Monitoring And Assessment

Alabama's water quality assessment methodology determines whether or not a river, lake, stream, or coastal water body is supporting its designated beneficial use(s) and the water quality parameters required to meet those beneficial uses. The Department's monitoring strategy is designed to characterize water quality and to identify impacts from a variety of sources, providing a systematic and integrated framework for gathering necessary information to support water quality decisions.

The Department's multi-faceted monitoring approach includes measurements of water quality over time, randomly-selected sampling locations to assess statewide water quality conditions, non-point and point source assessments, compliance monitoring to ensure compliance with regulatory requirements, reservoir and coastal surveys, and fish tissue monitoring. Monitoring focuses on one of five river basin groups and rotates through each river basin every five years. Monitoring information is used to identify waters that do not fully support all of their designated uses.

Water use classifications in Alabama

Outstanding Alabama Water
Public Water Supply
Swimming and Other Whole Body Water-Contact Sports
Shellfish Harvesting
Fish and Wildlife
Limited Warmwater Fishery
Agricultural and Industrial Water Supply

The assessment considers both physical/chemical water quality parameters and biological data with prescribed thresholds that water bodies must meet to fully support their designated uses. Physical/chemical parameters include temperature, pH, dissolved oxygen content, and toxics such as metals, chlorine, and ammonia. Biological parameters include macroinvertebrate assessments, as well as fish consumption advisories and shell fish harvesting closure notices. Advisories and notices are issued by the Alabama Department of Public Health (ADPH). When water quality data indicate that designated uses are not being supported, or only partially supported, the water body is proposed for addition to the list of impaired waters, commonly referred to as the 303(d) list (Section 303(d) of the federal Clean Water Act), which the state must prepare for the EPA each even-numbered year.

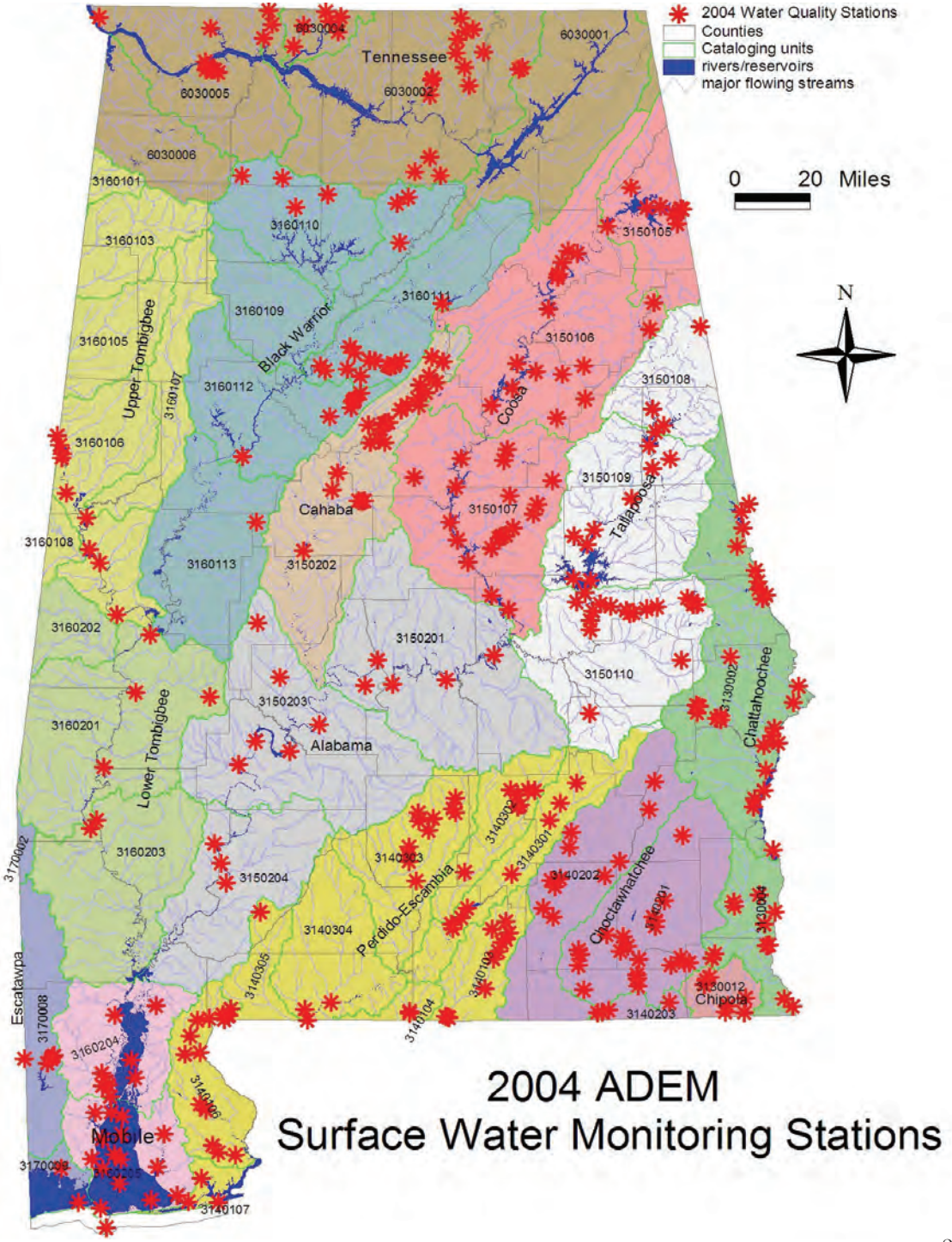
View of railroad bridge downstream of monitoring site.

Once a water body has been determined to be impaired, the Department must make a determination of that water body's Total Maximum Daily Load (TMDL), a calculation of the maximum

amount of a specific pollutant the water body can receive and still comply with Alabama's federally-approved water quality standards. A priority ranking of each impaired water body must also be made, considering the source(s) of pollution, its severity, and the designated use(s) of the water body. Once a TMDL is established, practices and procedures are implemented to return the water body to applicable water quality standards. Removal of water bodies from the 303(d) list requires a demonstration that the basis for the original listing is no longer valid and water quality data indicates the water body is fully supporting its designated use(s).

On February 13, 2004, the Department published a notice requesting comments and information from the public concerning the draft 2004 303(d) list. The Department prepared a response to all comments received and submitted the 2004 Integrated Water Quality Monitoring and Assessment Report to the EPA on April 1, 2004.

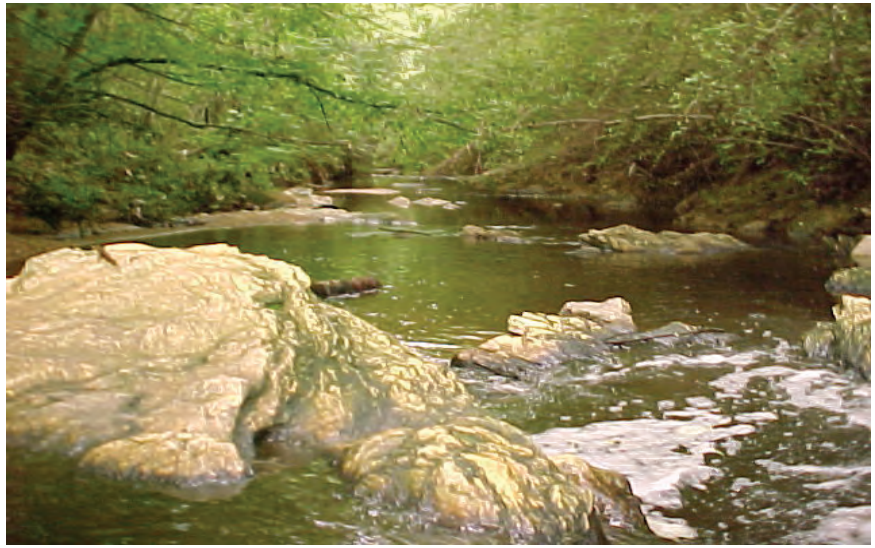
Mouth of Tensaw River adjacent to downtown Mobile.



Water Quality Standards Development

A priority for the Department during 2004 was the development of nutrient criteria for the state's water bodies, and especially for Alabama's publicly-owned lakes and reservoirs. Alabama's abundant water resources include a network of reservoirs comprising some of the most biologically-diverse aquatic ecosystems in the United States. The Department developed nutrient criteria as a means of assessing the complex nature of nutrients, their status and trends within Alabama's reservoirs, and as a means to accurately judge the effects that nutrient over-enrichment has on the flora and fauna of an affected watershed. As indicated in water quality reports to Congress, nutrient over-enrichment has been identified as the second leading cause of designated use impairments to surface waters throughout the nation. In Alabama, nutrient loading is associated with the impairment of an estimated 30 percent of the state's rivers and streams, and is the leading cause of impairment (44 percent) for the state's lakes and reservoirs.

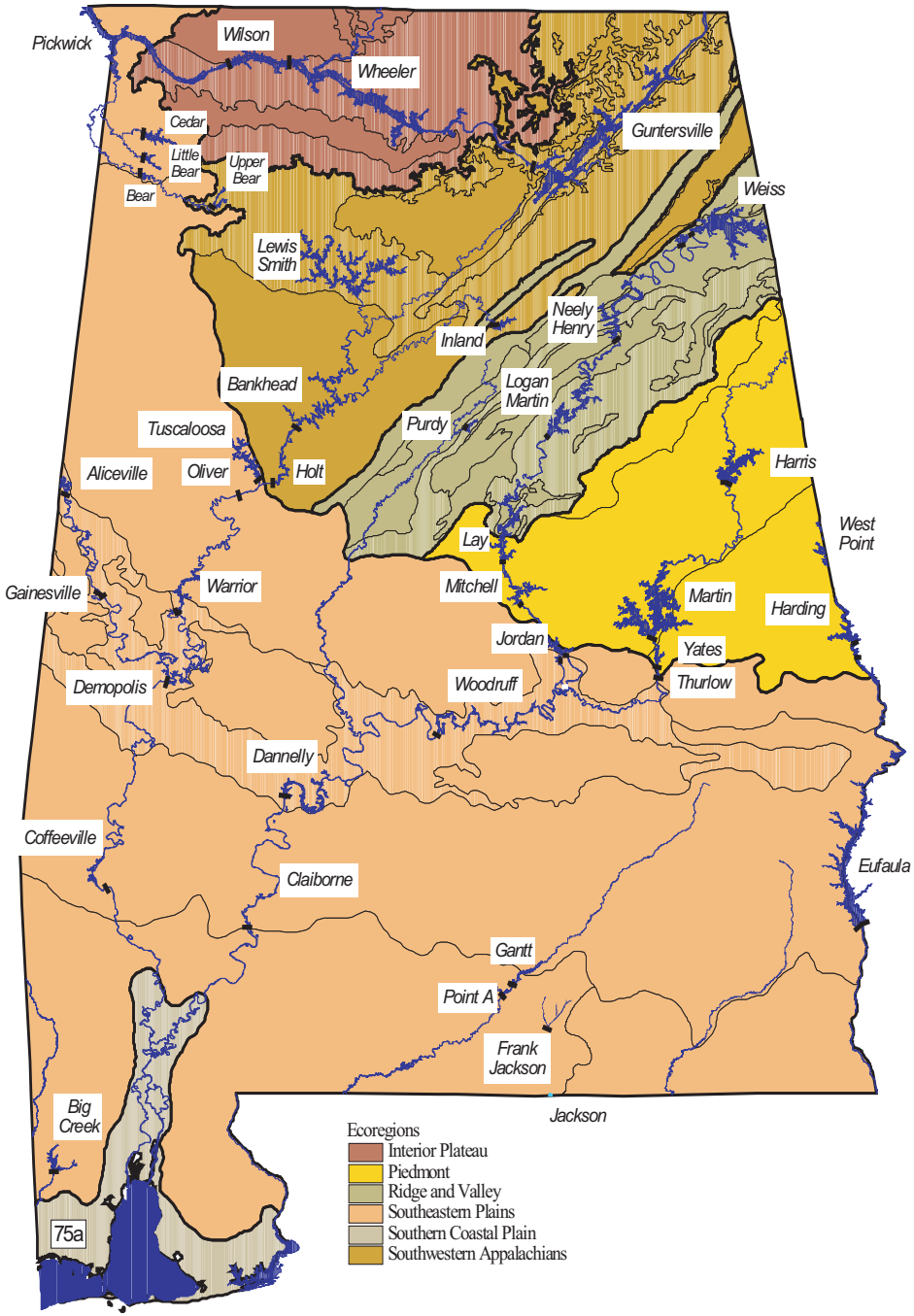
Based on significant scientific evaluation conducted by the Department, Alabama has been recognized as one of the few states nationally to have made progress in developing EPA-mandated nutrient criteria for state lakes and reservoirs. On April 20, 2004, the AEMC adopted water quality regulations that established numeric, lake-specific criteria for 11 reservoirs within Alabama. Specifically, *chlorophyll-a* criteria were adopted, bringing the total number of state reservoirs with developed nutrient criteria to 24. The Department expects to propose *chlorophyll-a* criteria for an additional 16 reservoirs during 2005. Due to the significant diversity in geographic and climate conditions from one region of the state to another, and to the significant variability in dam operations between reservoirs, nutrient criteria were developed on a lake-specific basis rather than on a more aggregate basis such as an ecoregional approach. The lake-specific approach captures the large variability inherent in man-made reservoirs, where *chlorophyll-a* concentrations are typically a strong indicator of factors such as reservoir depth, retention time and the scheduling of power generation.



Nutrient criteria development for state streams and rivers will be a priority during the coming year.

For other types of water bodies, such as rivers, streams, estuarine and coastal waters, and wetlands, the Department is currently developing strategies, goals, technical advisory teams, sampling and implementation plans that address nutrient issues for each type of water body. Nutrient criteria development for Alabama's rivers and steams has begun via the formation of a nutrient workgroup of technical experts from throughout the region. The Department is currently reviewing EPA technical guidance and ambient water quality criteria for wetlands and coastal/marine waters. The Department is also participating with the EPA's Gulf of Mexico Program office in a nutrient pilot study to assess nutrient concentrations and biological responses in the northern Gulf of Mexico. Data derived from the pilot study will provide information necessary to develop nutrient criteria for Mobile Bay and other coastal waters.

Alabama's Ecoregions and Reservoirs/Lakes



On December 23, 2003, the AEMC adopted a revision to the ADEM Administrative Code for Use Classifications which added the Public Water Supply (PWS) use classification to a segment of the Coosa River lying within parts of St. Clair, Calhoun, and Talladega counties, to be used for a drinking water source for the Coosa Valley Water Supply Board.

On April 20, 2004, the AEMC adopted a revision to the ADEM Administrative Code for Water Quality Criteria, specifying that enterococci bacteria, rather than fecal coliform, would be the bacterial indicator used when monitoring recreational coastal waters. Marine water studies conducted by EPA documented a stronger statistical relationship between elevated concentrations of enterococcus in the water and associated human sickness. The adoption of the new criteria will ensure consistency with federal standards and will provide citizens with water quality data based upon the most recent scientific studies.

Also, on April 20, 2004, the AEMC adopted a revision to the ADEM Use Classifications, which added the PWS classification to Whitesides Mill Lake in Calhoun County that would classify this reservoir for use as a water supply source for the City of Anniston.

On December 3, 2004, the AEMC adopted revisions to the ADEM Administrative Code for Water Quality Criteria to update the Department's toxic pollutant criteria to be consistent with criteria established by EPA. The revision also clarified the waste treatment requirements for municipal wastewater treatment facilities with effluent limitations more stringent than secondary treatment.

Fish Tissue Monitoring Program Results

Results from the Department's FY04 Fish Tissue Monitoring Program indicate that most fish obtained from Alabama's river basins and sampled last fall did not contain elevated levels of contaminants. A total of 522 fish representing 12 species were collected from 50 locations in 21 water bodies during the fall of 2003. Of the 522 fish collected, 472 were collected as part of the Department's Fish Tissue Monitoring Program while 50 were collected as part of the Department's participation in the U.S. EPA National Fish Tissue Study. The number of stations and number of fish collected in FY04 were the largest totals in a single year since the program's inception.

Monitoring station below the Edmund Pettus Bridge in Selma.

Initiated in 1991, the program is conducted in cooperation with the ADPH, the Alabama Department of Conservation and Natural Resources, and the Tennessee Valley Authority. While providing valuable information to the cooperating agencies, the monitoring program also provides data that the ADPH uses to alert Alabama citizens who consume their catch of fish about potential health risks from this important food source.

Fish samples were analyzed by the Department's laboratory for contaminants with the potential to bioaccumulate, the process through which low levels of a contaminant in the environment are concentrated in the bodies of plants and animals. These contaminants include PCBs, arsenic, chlordane, toxaphene, mercury, mirex, DDT, DDD, DDE, dieldrin, dursban, endrin, heptachlor, heptachlorepoxide, endosulfan, hexachlorobenzene, lindane, and certain heavy metals. Fish are collected in the fall of each year when their systems are preparing for winter and most pollutants of concern would be expected to be stored at their highest concentrations in the body tissue.

Contaminant concentrations, if present, were either below measurable levels, or did not exceed FDA guidelines in fish collected from the Cahaba River, Cedar Creek Reservoir, Conecuh River, Dog River, Little Bear Creek Reservoir, Middle River, Alabama River, Guntersville Reservoir, and Pickwick Reservoir. Similar results were recorded in samples collected from Mobile Bay, one location on the Mobile River, Murder Creek, Negro Lake, and Perdido Bay. Samples collected from multiple locations on the Tombigbee River, Weiss Reservoir, Wheeler Reservoir, and Wilson Reservoir also produced concentrations below measurable levels or below FDA guidelines for contaminants in fish.

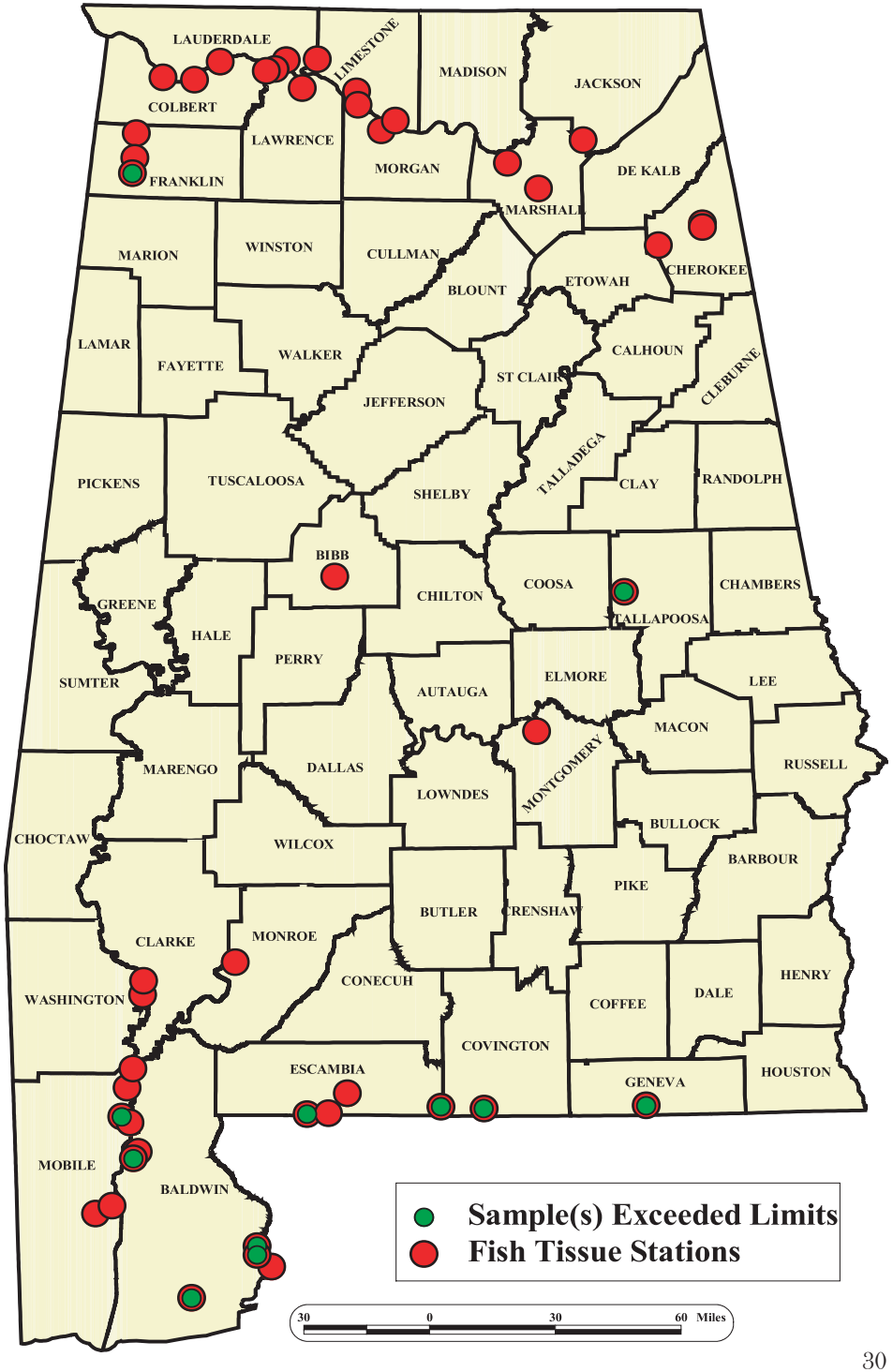
One or more fish from locations in the following water bodies exceeded the FDA guidelines level of 1.0 ppm (parts-per-million) of

mercury: Bear Creek Reservoir, Blackwater River in Baldwin County, Blackwater River in Escambia County, Pea River, Yellow River, two locations on the Mobile River, Big Escambia Creek, Little Escambia Creek, Bon Secour River, Perdido River, and the Sugar Creek embayment of Martin Reservoir.

The Department also collected fish for dioxin analysis from three locations below bleach kraft paper mills on the Alabama River, Tombigbee River, and Mobile River. Bass and catfish below these discharge points showed no dioxin, or concentrations well below established levels of concern. Sampling below these mills is a continuation of monitoring initiated following changes instituted by the mills.

The Department's Fish Tissue Monitoring Program also included an evaluation of the physical condition of important sport and/or commercial fish species. The majority of the fish evaluated were found to be in good to excellent condition. Fish were also checked for external anomalies, such as lesions, tumors, parasites, and deformities. Approximately 81 percent of the fish checked had no anomalies, a finding similar to those of previous years' sampling. The occurrence of lesions on fish during spring and fall may be the result of bacterial infections associated with changing water temperatures, spawning stress, or a combination of natural occurrences. These infections are not dangerous to the consumer and the fish are edible if properly prepared.

Data from the monitoring program were forwarded to the ADPH to determine if new fish consumption advisories or changes to existing advisories were necessary. The ADPH provides information on all current fish consumption advisories on its website, www.adph.org. The site also provides information on ways to prepare fish to limit exposure to contaminants that may be present.



ALABAMA CLEAN WATER PARTNERSHIP

The Alabama Clean Water Partnership (ACWP), supported by the Department, local sponsors, and various donors across the state, is bringing interested citizens and water users together, providing a neutral forum focusing on water-related issues and challenges. The partnership will seek to develop solutions for long-term water quality improvement and conservation in a non-regulatory way.

The goal of the ACWP is to promote and cultivate a partnership of all concerned individuals and groups. Working jointly to focus financial and human resources, the Partnership approach allows for more efficient and concentrated efforts by multiple partners in a specific area, increasing the chance of successful projects, education and outreach. With facilitators in the ten major river basins across the state, the Clean Water Partnership works as a catalyst, bringing stakeholders together and offering assistance with all types of environmental activities.

Stream and river clean up projects.

Streambank restoration projects.

Nonpoint source education billboard campaign in partnership with Legacy, Inc.

Basin Management Plans are being developed by stakeholders of all ten major river basins across the state.

EMERGENCY RESPONSE

State of Alabama Emergency Operations Plan

- ADEM is the primary agency leading this activity.
- The Department is charged with carrying out the prescribed duties of the State Emergency Response Commission (SERC), in cooperation with the Alabama Emergency Management Agency (AEMA).
- The Department provides support to local governments in response to actual or potential discharges and/or releases of hazardous materials originating from a natural, manmade, or technological disaster.
- The Department averages 450 responses per year.

Goals

- Create a state-level response for the command, control, and coordination of hazardous material response and mutual aid operations.
- Coordinate the dispatch and use of state hazardous material resources and provide the means of coordination with federal and local governments.
- Provide a system for the gathering and dissemination of information relevant to multi-faceted hazardous materials incident response.
- Collect and disseminate information to the public relating to hazardous materials incidents.

Emergency Outreach Activities

- Outreach to local EMA and other local response officials.
- Representation to numerous state and federal committees and organizations.

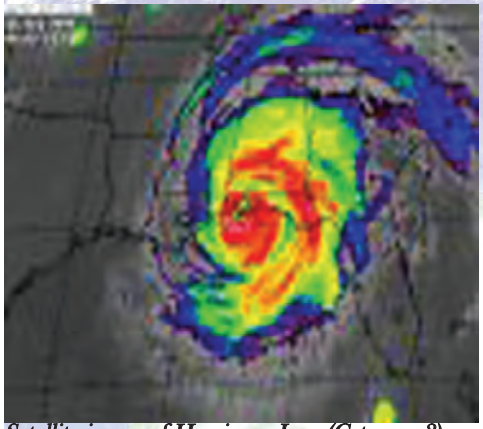
  Region 4, Federal Regional Response Team, State of Alabama Mutual Aide Committee, Bioterrorism Advisory Council, Port and Inland River Security Committee, Clean Gulf Advisory Committee
- Participate in the planning and execution of numerous state and local response exercises.
- Since 2002, over 1,500 first responders throughout the state and southeast have been trained in methamphetamine lab awareness.
- Arrange for federal training opportunities for state and local responders.

Traffic accident resulting in overturned tanker truck hauling food-grade vegetable oil in Cullman County, 2002. Some diesel spilled from saddle tanks in the accident; but due to preventative measures taken, no oil leaked from the tanker.

Diesel tank struck by lightning – Redstone Arsenal, 2003.

Emergency Response - Catastrophe Strikes

The Department conducts many emergency responses each year, but few events could compare to the devastation wrought by Hurricane Ivan in September 2004. Extensive damage was incurred along Alabama's Gulf Coast, resulting in widespread beach erosion and property destruction, including hundreds of demolished buildings and many thousands of acres of ravaged woodlands and forests.



Satellite image of Hurricane Ivan (Category 3) as it made landfall at approximately 2 a.m., east of Mobile Bay on September 16, 2004.

Pursuant to the Alabama Emergency Operations Plan, the Department is charged with executing the prescribed duties of the SERC, in cooperation with the AEMA. The Department is the lead agency for Emergency Support Function (ESF) 10, relating to hazardous materials. Department staff was present at the state's Emergency Operations Center while other Department emergency responders were deployed to South Alabama on September 17, 2004, to immediately conduct damage assessments in Mobile and Baldwin Counties.

The Department's response included four ongoing, simultaneous operations:

1) Daily surveys were conducted of affected public drinking water and wastewater operations to determine their operational status, and industrial operations were monitored to determine any storm-related environmental impacts.
2) ESF 10 was implemented to identify storm-related hazardous materials that escaped confinement during the hurricane. Teams searched through tidal surge areas locating, identifying, and recovering hazardous materials containers. The materials were briefly staged at the Gulf Shores Wastewater Treatment Plant prior to being transported to the temporary hazardous materials staging area established at the Magnolia Landfill in Baldwin County. Collected hazardous materials were consolidated and overpacked to facilitate easier handling and proper disposal, with care taken to identify and segregate recyclable components.
3) Guidance was provided to state and local governments and citizens on the proper management of storm-generated vegetation debris and construction and demolition debris.
4) Work has continued with local governments and other state agencies to facilitate reconstruction that is subject to the Department's Coastal Program regulations.

Hazardous Materials Staging Area - Gulf Shores, October 2004.

Collapsed front of multi-story building, Orange Beach. Aerial Photographs by the U.S. Geological Survey.

INNOVATIONS

Truck Stop Electrification, Petro Truck Stop, Bucksville, AL.

Truck Stop Electrification Project

On June 16, 2004, a truck stop electrification project was unveiled at the Petro Truck Stop in Bucksville, Alabama. This was the first project of its kind to be constructed in Alabama, with additional facilities anticipated. Partners involved with introducing this technology to the state included the Alabama Department of Environmental Management, the Applied Research Center of Alabama, Alabama Power Company, the United States Environmental Protection Agency, the Alabama Department of Economic and Community Affairs, the Jefferson County Department of Health, the Electric Power Research Institute, the Alabama Trucking Association, and the Regional Planning Commission of Greater Birmingham. The 81-lane project uses Tennessee-based IdleAire Technologies' electrification system that provides truck drivers access to 110-volt electrical power outlets inside and outside the cab, filtered central heating and air conditioning, a high-speed computer and monitor featuring color touch-screen, high-speed wired Ethernet and wireless Internet /E-mail access, free local phone service, satellite television, movies on demand, and on-line, interactive driver training. These resources are provided without the need for drivers to idle their truck engines. IdleAire Technologies recently earned the national EPA "Clean Air Excellence Award" for its innovative approach in improving air quality.

The electrification project will provide air quality benefits for the area by reducing diesel particulate emissions and other pollutants created by idling truck engines. The annual emission reductions attributable to the 81 electrified lanes are estimated to be 57 tons of NO_X, 3 tons of VOC, 1 ton of PM, 24 tons of CO, and 4,027 tons of CO2. The truck drivers will also realize fuel savings and reduced engine wear to their vehicles, and an estimated annual diesel fuel savings of 425,736 gallons and $638,604, based on an average diesel fuel cost $1.50/gallon. The annual maintenance savings attributable to the 81 lanes is estimated to be $197,154. This technology also provides a secondary benefit by reducing the country's dependency on foreign oil.

Enviromental Information and Education Introduced Through Weather Forecasts

The Department partnered with WSFA-12 in Montgomery, WKRG-5 in Mobile, the Alabama Clean Water Partnership, and StormCenter Communications to incorporate environmental education/awareness into the weather segment of the WSFA/WKRG newscasts. Weather conditions have the potential to directly impact water quality in Alabama, and surrounding states. As such, weather forecasts offer a perfect opportunity for broadcast meteorologists to discuss the connections between weather conditions and water quality in local watersheds.

In November 2004, the stations' broadcast meteorologists introduced information about the watersheds in which the viewers live, together with tips for maintaining/improving water quality in the watersheds. Each station has also established an interactive web-site that contains educational information about the local watersheds.

This innovative, educational effort will inform local residents how their lifestyles can impact water quality and will encourage better environmental stewardship. Educating the public about the importance of protecting Alabama's watersheds is a significant part of the Department's implementation of Section 319 of the Clean Water Act.

Complete information on Storm Team 12's Commitment to Clean Water can be obtained from http://wsfa.iewatershed.com/.

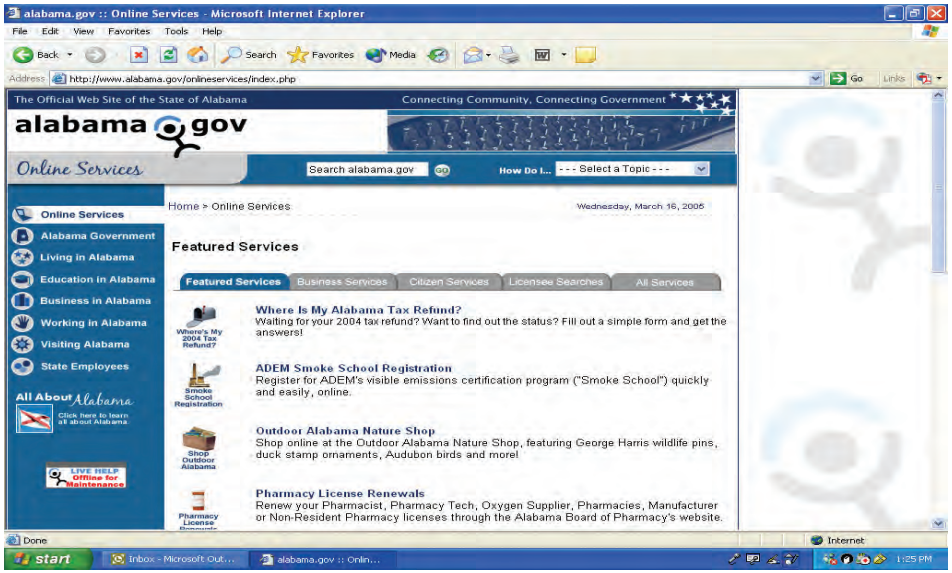
Complete information on First Alert Storm Team's Watersheds: The Coastal Connection can be obtained from http://wkrg.iewatershed.com/.

E-Government

In partnership with the Department of Finance's Information Services Division and Alabama Interactive, the Department initiated more efficient technology to help lessen paperwork and transition into the realm of e-government. The first endeavor, unveiled in 2004, provides currently certified drinking water and wastewater treatment operators an opportunity for timely on-line certification renewal. By keeping certifications up-to-date, consumers can be assured that their local drinking and wastewater systems are managed by only the most competent operators.

On-line renewals allow certified operators to complete their renewal forms electronically and submit their payment using an approved credit card. The on-line renewal process will reduce paperwork, reduce the number of checks that have to be processed, and streamline data entry. Additionally, the on-line process should result in certified operators receiving their renewal certificates in less time. On-line renewal can be accessed via www.alabamainteractive.org/adem_loc/renewals.

Activities initiated in FY05 include on-line registration and payment of fees associated with the Department's visible emissions training program and expected stormwater permit application and payment program.



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